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EVALUATION OF LIQUEFACTION POTENTIAL USING CONE PENETRATION TEST FOR RAPTI MAIN CANAL

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ABSTRACT

During the earthquake Soil liquefaction is the major concern for demolishing the structurealong the rivers, tributaries and the valley floors. This paper shows the evaluation of liquefaction potential using the Cone Penetration Test (CPT) at a project under the SaryuNaharPariyojna in the basins of Rapti River named as Rapti Main Canal in Balrampur areas. This is the leading distributary project which have a stretch of 125 km through the Balrampur, Behraich and Shravasti districts of Uttar pradesh. This area of Rapti Main Canalhaving a major concern about the soil Liquefaction due its soil behavior and water logging, here mostly we found sandy soil in saturated state. The objective of this paper is to evaluate soil liquefaction in term of factor of safety using method of Cone Penetration test given by the P.K. Robertson and C.E. (Fear) Wride in 1998 and updated work in Robertson 2009, CPT provide good evaluation of Liquefaction Potential due its continuous in nature.

KEYWORDS: Soil Liquefaction, Cone Penetration Test, Cyclic Stress Ratio, Cyclic Resistance Ratio, Soil Behaviour Type Index